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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/033,437	12/28/2001	Keith A. Riha	TRM TR000024 DIV	9561
32047	7590	11/02/2004	EXAMINER	
GROSSMAN, TUCKER, PERREAULT & PFLEGER, PLLC 55 SOUTH COMMERICAL STREET MANCHESTER, NH 03101			STAICOVICI, STEFAN	
			ART UNIT	PAPER NUMBER
			1732	

DATE MAILED: 11/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/033,437	RIHA ET AL.	
	Examiner	Art Unit	
	Stefan Staicovici	1732	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 August 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. Applicants' amendment filed August 16, 2004 has been entered. Claim 1 has been amended. No claims have been added. Claim 1 is pending in the instant application.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Filion *et al.* (US Patent No. 5,952,630) in view of Filion *et al.* (US Patent No. 5,448,028) and in further view of Spanjer (US Patent No. 4,654,290).

Filion *et al.* ('630) teach the basic claimed process including, providing a thermoplastic PVC (polymer) outer skin (26b') formed by vacuum forming (thermoforming) (col. 5, lines 56-57), a foam layer (26b'') bonded to said skin, a substrate layer (22b) bonded to said foam layer (26b'') and at least one switch (30b) embedded in said foam layer (26b'') (see Figure 5 and, col. 3, lines 60-64; col. 5, lines 31-34 and lines 54-61). Further, Filion *et al.* ('630) specifically teach that *any* (emphasis added) suitable foam material may be used as taught in U.S. Patent No. 5,232,957, which is incorporated by reference (col. 6, lines 1-7), and as such, under MPEP

§2163.07, Fillion *et al.* ('630) teach a polyurethane foam. Furthermore, Fillion *et al.* ('630) teach marking of said outer skin layer (see Figure 1).

Regarding claim 1, although Fillion *et al.* ('630) teaches marking of said outer skin layer (see Figure 1), Fillion *et al.* ('630) does not teach a process of marking said outer skin layer. Fillion *et al.* ('028) teach a printing process for forming indicia (30) on a laminate including an outer skin (28), a foam layer (26) bonded to said skin, a substrate layer (24) bonded to said foam layer (26) and at least one switch (20) embedded in said foam layer (26), said indicia overlying said embedded at least one switch (20) (see col. 2, line 67 through col. 3, line 23; col. 3, lines 37-61; col. 5, lines 29-43 and Figure 6). Further, Fillion *et al.* ('028) teach that said markings are used to identify the switch visually (see col. 3, lines 37-40), hence identifying the position of the switch. Furthermore, it is noted that the limitation of "to indicate the position or function of a switch" is a functional limitation and recitation of the intended use of the claimed marking step must result in a structural difference between the claimed process and the prior art in order to patentably distinguish the claimed invention from the prior art.

Spanjer ('290) teaches that a polymeric material that includes a pigment die changes color upon interaction between said pigment die and a laser beam and forms a marking of a different color than the surrounding material (see col. 1, lines 52-60). Further, Spanjer ('290) teaches laser marking as a replacement for printing, hence teaching laser marking as an equivalent alternative to printing (see col. 1, lines 24-25). Furthermore, it is submitted that the polymeric material of Spanjer ('290) includes a skin layer in which the laser beam is focused in order for the inventions of Spanjer ('290) to function as described.

Therefore, it would have been obvious for one of ordinary skill to have provided a colored outer skin and have used a laser marking method as taught by Spanjer ('290) as an alternative to the printing process of Fillion *et al.* ('028) to form indicia in the process of Fillion *et al.* ('630) because, Fillion *et al.* ('630) teaches marking of said outer skin layer and Spanjer ('290) teaches that laser marking and printing are equivalent alternatives and also because, laser marking provides a clearer and more durable marking, while eliminating the extra processing step in the printing process of applying a clear coat over a printed mark. It should be noted that it is submitted that said outer skin is a colored outer skin in the process of Fillion *et al.* ('630) in view of Fillion *et al.* ('028) and in further view of Spanjer ('290) in order for said process to function as described.

Response to Arguments

4. Applicants' remarks filed August 16, 2004 have been considered.
5. Applicants argue that "Fillion '630 and/or Fillion '028 do not teach or suggest anything regarding the advantages, desirability, convenience or even hint at the opportunity to successfully project a laser beam to an outer skin surface in an area that overlies a switch" such that "it is not at all clear to Applicants...that one of ordinary skill in the art would look beyond Fillion to do something other than print" (see pages 4-5 of the amendment filed August 16, 2004). In response, it is noted that:

(a) One cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208

USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). It is the teachings of Spanjer ('290) that were used to show the "advantages, desirability, convenience" of replacing printing with laser marking;

(b) Under MPEP §2141.02, "[I]n determining the differences between the prior art and the claims, the question under 35 U.S.C. 103 is not whether the differences themselves would have been obvious, but whether the *claimed invention as a whole* would have been obvious" (emphasis added). See *Stratoflex, Inc. v. Aeroquip Corp.*, 713 F.2d 1530, 218 USPQ 871 (Fed. Cir. 1983); *Schenck v. Nortron Corp.*, 713 F.2d 782, 218 USPQ 698 (Fed. Cir. 1983);

(c) The examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case:

(i) the primary reference, Fillion *et al.* ('630), teaches providing a thermoplastic PVC (polymer) outer skin (26b') formed by vacuum forming (thermoforming) (col. 5, lines 56-57), a polyurethane foam layer (26b'') bonded to said skin, a substrate layer (22b) bonded to said foam layer (26b'') and at least one switch (30b) embedded in said foam layer (26b'') and, marking of said outer thermoplastic PVC skin layer (see Figure 1);

(ii) the secondary reference, Fillion *et al.* ('028), teaches a printing process for forming indicia (30) on a laminate including an outer skin (28), a foam layer (26) bonded to said

skin, a substrate layer (24) bonded to said foam layer (26) and at least one switch (20) embedded in said foam layer (26), said indicia overlying said embedded at least one switch (20);

(iii) the secondary reference, Spanjer ('290), teaches that a polymeric material that includes a pigment die changes color upon interaction between said pigment die and a laser beam and forms a marking of a different color than the surrounding material (see col. 1, lines 52-60). Further, Spanjer ('290) teaches laser marking an object as a replacement for printing, hence teaching laser marking as an equivalent alternative to printing (see col. 1, lines 24-25). Furthermore, it is submitted that the polymeric material of Spanjer ('290) includes a skin layer in which the laser beam is focused in order for the inventions of Spanjer ('290) to function as described.

Therefore, it would have been obvious for one of ordinary skill to have provided a colored outer skin and have used a laser marking method as taught by Spanjer ('290) as an alternative to the printing process of Fillion *et al.* ('028) to form indicia in the process of Fillion *et al.* ('630) because, Fillion *et al.* ('630) teaches marking of said outer skin layer and Spanjer ('290) teaches that laser marking and printing are equivalent alternatives and also because, laser marking provides a clearer and more durable marking, while eliminating the extra processing step in the printing process of applying a clear coat over a printed mark. It should be noted that it is submitted that said outer skin is a colored outer skin in the process of Fillion *et al.* ('630) in view of Fillion *et al.* ('028) and in further view of Spanjer ('290) in order for said process to function as described.

6. Applicants argue that “the Board of Patent Appeals & Interferences has itself more recently made clear that the mere fact that the prior art may be modified in a manner suggested by an Examiner does not make the modification obvious unless the prior art suggested the desirability of the modification” (see pages 5-6 of the amendment filed August 16, 2004). Further, Applicants cite the holding of *In re Zurko*, in which the “court required evidence for the determination of unpatentability by clarifying that the principles of ‘common knowledge’ and ‘common sense’ may only be applied to the analysis of the evidence, rather than a substitute for the evidence” (see page 6 of the amendment filed August 16, 2004).

In response, it is noted that throughout prosecution of the instant application, “common knowledge” has not been used to replace evidence. Specifically, it has been shown that the primary reference, Filion *et al.* ('630), teaches providing a thermoplastic PVC (polymer) outer skin (26b') formed by vacuum forming (thermoforming) (col. 5, lines 56-57), a polyurethane foam layer (26b'') bonded to said skin, a substrate layer (22b) bonded to said foam layer (26b'') and at least one switch (30b) embedded in said foam layer (26b'') and, marking of said outer thermoplastic PVC skin layer (see Figure 1). The secondary reference, Filion *et al.* ('028), teaches a printing process for forming indicia (30) on a laminate including an outer skin (28), a foam layer (26) bonded to said skin, a substrate layer (24) bonded to said foam layer (26) and at least one switch (20) embedded in said foam layer (26), said indicia overlying said embedded at least one switch (20). Finally, the secondary reference of Spanjer ('290), teaches that a polymeric material that includes a pigment die changes color upon interaction between said pigment die and a laser beam and forms a marking of a different color than the surrounding material (see col. 1,

lines 52-60). Further, Spanjer ('290) teaches laser marking an object as a replacement for printing, hence teaching laser marking as an equivalent alternative to printing (see col. 1, lines 24-25). Furthermore, it is submitted that the polymeric material of Spanjer ('290) includes a skin layer in which the laser beam is focused in order for the inventions of Spanjer ('290) to function as described. Therefore, evidence has been presented such that it would have been obvious for one of ordinary skill to have provided a colored outer skin and have used a laser marking method as taught by Spanjer ('290) as an alternative to the printing process of Fillion *et al.* ('028) to form indicia in the process of Fillion *et al.* ('630) because, Fillion *et al.* ('630) teaches marking of said outer skin layer and Spanjer ('290) teaches that laser marking and printing are equivalent alternatives and also because, laser marking provides a clearer and more durable marking, while eliminating the extra processing step in the printing process of applying a clear coat over a printed mark. It should be noted that it is submitted that said outer skin is a colored outer skin in the process of Fillion *et al.* ('630) in view of Fillion *et al.* ('028) and in further view of Spanjer ('290) in order for said process to function as described.

7. Applicants argue that the "Spanjer should not be relied upon anything more than a teaching that one can use laser marking on an electronic device" and "can not serve as a generic teaching that laser marking of **any substrate** would be an equivalent alternative to **printing on any substrate** that oddly enough differ from those disclosed by Spanjer" (see page 7 of the amendment filed August 16, 2004). Further, Applicants argue that "Spanjer ('290) is quite limited in his teachings" because the teachings are "entirely and comprehensively directed at laser marking electronic devices formed of epoxy, silicone and polyimide resin, formed by

injection molding, transfer molding or potting wherein a high level of filler must be present which yields a grayish hue which upon addition of TiO_2 or $\text{TiO}_2 + \text{Cr}_2\text{O}_3$ in the presence of Carnuba wax” (see pages 8-10 of the amendment filed August 16, 2004). In response, it is noted that the instant invention is drawn to “thermoplastic or thermoset materials” (see claim 1, line 4), hence including epoxy, silicone and polyimide resins as taught by Spanjer ('290). Although, the resin composition of Spanjer ('290) includes a variety of other additives, it is noted that under MPEP §2111.03, the “transitional term ‘comprising’...is inclusive or open-ended and does not exclude additional, unrecited elements or method steps. See, e.g., *Genentech, Inc. v. Chiron Corp.*, 112 F.3d 495, 501, 42 USPQ2d 1608, 1613 (Fed. Cir. 1997). Furthermore, the instant invention (see claim 1, line 3) is drawn to a casting process which is a potting method as taught by Spanjer ('290).

8. Further, in response to applicant's argument that the teachings of Spanjer ('290) is nonanalogous art, it has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). In this case, Filion *et al.* ('028) teaches printing as a method of marking an object with words or symbols for identification purposes. Spanjer ('290) teaches the use of a laser to mark an object with letters and numbers for identification purposes. Hence, it is submitted that both references teach marking an object for identification purposes, hence both references are reasonably pertinent to the particular problem with which Applicants are concerned. Further, it is noted that under

MPEP §2144.06, “[I]n order to rely on equivalence as a rationale supporting an obviousness rejection, the equivalency must be *recognized in the prior art*” (emphasis added). As shown throughout prosecution of the instant application, Spanjer (‘290) specifically teaches in column 1, lines 24-25 that laser marking is a replacement for printing, hence teaching laser marking as an equivalent alternative to printing.

9. Applicants argue that “Spanjer discloses a surface that is marked, not a polymer skin layer in the stack-up configuration as recited in claim 1” such that “Spanjer teaches away from an outer layer at column 4, lines 33-35 where he recites ‘It is highly desirable to be able to use a markable compound that will give durable high contrast markings without the need for a supplementary surface coating’” (see page 11 of the amendment filed August 16, 2004). In response, it is noted that the “polymer skin layer” of Spanjer (‘290) is referred to the depth at which the laser is focused. Further, the layer of Spanjer (‘290) is a polymeric layer. Hence, a “polymer skin layer” is present as the layer within which the laser beam is focused in order to form the marking. It is noted that Filion *et al.* (‘630) teach a thermoplastic PVC (polymer) outer skin (26b’) formed by vacuum forming (thermoforming) (col. 5, lines 56-57), a foam layer (26b”) bonded to said skin, a substrate layer (22b) bonded to said foam layer (26b”) and at least one switch (30b) embedded in said foam layer (26b”) (see Figure 5 and, col. 3, lines 60-64; col. 5, lines 31-34 and lines 54-61). Hence, Spanjer (‘290) merely teaches the ability to focus the beam within a layer that has a depth less than the thickness of the object being marked.

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stefan Staicovici, Ph.D. whose telephone number is (571) 272-1208. The examiner can normally be reached on Monday-Friday 9:30 AM to 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael P. Colaianni, can be reached on (571) 272-1196. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 1732

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Stefan Staicovici, PhD



Primary Examiner

10/30/04

AU 1732

October 30, 2004